

AMENDMENTS TO THE CLAIMS

Please amend Claims 1-4 and 7-27 as follows.

LISTING OF CLAIMS

1. (currently amended) A shock absorber piston assembly, comprising:

a piston having a first face and an opposed second face ~~[[and]]~~, the piston defining a plurality of separate fluid passages allowing fluid communication through only the piston between the first face and the second face; and

a plurality of flow control devices each operably sealing at least one of the fluid passages, including:

~~at least a pair of bleed plates, including a first bleed plate operably contacting the first face and a second bleed plate operably contacting the second face;~~
and

~~at least a pair of blow-off discs, including a first blow-off disc operably contacting the first face and a second blow-off disc operably contacting the second face;~~

wherein each of the flow control devices operably opens at an individually adjustable device opening pressure.

2. (currently amended) The piston assembly of Claim 1, further comprising a compression device operably maintaining each of the flow control devices in a closed position in contact with the piston ~~until each of the flow control devices operably opens at the individually adjustable device opening pressure.~~

3. (currently amended) The piston assembly of Claim 2, comprising a piston rod ~~engageably disposed through~~ attached to the piston.

4. (currently amended) The piston assembly of Claim 3, wherein the compression device comprises a spring ~~operably maintaining contact between each of the bleed plates and the piston.~~

5. (original) The piston assembly of Claim 4, wherein the spring comprises:
a spring engagement end fixedly engaged with a slot of the piston rod;
and
a spring force distribution end in contact with the bleed plate.

6. (original) The piston assembly of Claim 3, wherein the compression device comprises at least one spring disc plate operably maintaining contact between each of the blow-off discs and the piston.

7. (currently amended) The piston assembly of Claim 6, further comprising a preload spacer connectably affixed to the piston rod and operably preloading the at least one spring disc plate.

8. (currently amended) The piston assembly of Claim 7, further comprising an interface disc located between the at least one spring disc plate and each of the blow-off discs.

9. (currently amended) A shock absorber fluid flow control assembly, comprising:

a piston having a first face and an opposed second face;

~~a pair of fluid passage sets formed through the piston,~~ a first ~~[[one]]~~ plurality of ~~[[the]]~~ fluid passage sets passages isolable at the first face and a second ~~[[one]]~~ plurality of ~~[[the]]~~ fluid passage sets passages isolable at the second face, each of the first plurality of fluid passages having a different cross-sectional area and each of the second plurality of fluid passages having a different cross-sectional area; and

~~a plurality of passages in each fluid passage set each having a passage flow area selected from a different one of a plurality of passage flow areas; and~~

~~a pair of blow-off discs each operably sealing one of the fluid passage sets,~~ including a first blow-off disc in displaceable contact with the first face to seal the first plurality of fluid passages and a second blow-off disc in displaceable contact with the second face to seal the second plurality of fluid passages;

wherein ~~[[a]]~~ fluid pressure acting on one of the first face and the second face operably acts through one of the fluid ~~passage sets~~ passages to initially angularly displace and subsequently to fully open one of the ~~pair of~~ blow-off discs.

10. (currently amended) The control assembly of Claim 9, further comprising ~~at least two bleed passages formable through the piston, including at least a first bleed passage~~ extending through the piston and isolable at the first face and a second bleed passage extending through the piston and isolable at the second face.

11. (currently amended) The control assembly of Claim 10, further comprising ~~a pair of bleed plates including~~ a first bleed plate operably contacting the first face and a second bleed plate operably contacting the second face.

12. (currently amended) The control assembly of Claim 11, further comprising:

at least one spring disc operably preloading each blow-off disc; and

at least one spring operably preloading each bleed plate.

13. (currently amended) The control assembly of Claim 12, further comprising a predetermined quantity of the spring discs operably forming an adjustable blow-off disc opening pressure.

14. (currently amended) The control assembly of Claim 12, further comprising a predetermined thickness of each of the spring discs operably forming an adjustable blow-off disc opening pressure.

15. (currently amended) The control assembly of Claim 9, further comprising a raised land operably forming a sealable end of each passage.

16. (currently amended) The control assembly of Claim 10, wherein each fluid passage ~~of each passage set~~ is located adjacent to an outer diameter of the piston.

17. (currently amended) The control assembly of Claim 10, wherein each bleed passage is located interior to each fluid passage ~~of each passage set~~.

18. (currently amended) A shock absorber, comprising:

a piston tube;

a piston assembly slidably disposed within the piston tube and operably dividing the piston tube into a first working chamber and a second working chamber, the piston assembly including:

(i) a piston having a first face and an opposed second face, the piston defining ~~[[and]]~~ a plurality of separate fluid passages allowing fluid communication through only the piston between the first face and the second face; and

(ii) a plurality of flow control devices each operably sealing at least one of the fluid passages, including:

(a) ~~at least a pair of bleed plates, including~~ a first bleed plate operably contacting the first face and a second bleed plate operably contacting the second face; and

(b) ~~at least a pair of blow-off discs, including~~ a first blow-off disc operably contacting the first face and a second blow-off disc operably contacting the second face; and

a piston rod fastenably attached to the piston assembly.

19. (currently amended) The shock absorber of Claim 18, wherein the piston ~~[[rod]]~~ tube comprises a first end fitting connectable to an axle assembly of an automobile vehicle.

20. (currently amended) The shock absorber of Claim 19, further comprising:
~~a tubular end slidably disposed over both the piston tube and a freely extending end of the piston rod; and~~
a second end fitting fixedly connectable to the ~~freely extending end of the~~ piston rod and operably connecting the shock absorber to a vehicle body of an automobile vehicle.

21. (currently amended) A method ~~to control~~ for controlling fluid flow ~~across~~ through only a piston assembly of a shock absorber, the piston assembly having a first face and an opposed second face and a plurality of separate fluid passages, the method comprising:

orienting ~~[[a]]~~ the piston in a piston tube to allow fluid communication between the first face and the second face through the separate fluid passages;

sealing each of the separate fluid passages on ~~[[each]]~~ one of the first face and the second face with a flow control device selected from a pair of bleed plates and a pair of blow-off discs; and

preloading an opening pressure for each flow control device.

22. (currently amended) The method of Claim 21, further comprising slidably positioning the piston to operably divide the piston tube into a first working chamber and a second working chamber.

23. (currently amended) The method of Claim 21, further comprising:
displaceably connecting a first one of each of the pair of bleed plates and the pair of blow-off discs on the first face; and
displaceably attaching a second one of each of the pair of bleed plates and the pair of blow-off discs on the second face.

24. (currently amended) The method of Claim 21, further comprising:
preloading each of the pair of bleed plates to open at a first fluid pressure;
and
preloading each of the pair of blow-off discs to open at a second fluid pressure higher than the first fluid pressure.

25. (currently amended) The method of Claim 21, further comprising adjusting the opening pressure by one of adding and subtracting at least one spring disc plate to each flow control device.

26. (currently amended) The method of Claim 25, further comprising adjusting the opening pressure by one of increasing and decreasing a thickness of the at least one spring disc plate.

27. (currently amended) The method of Claim 21, further comprising increasing a ~~flow~~ cross-sectional area of successive ones of the fluid passages ~~on each~~ of the ~~first and second faces~~ in fluid contact with only one of the flow control devices.